

Ms. D. Goldberg's Math Classes

 Search this site

Home

Algebra II

[Algebra II Homework](#)
[Algebra II Handouts](#)
[Algebra II Links](#)
[Algebra II Test Announcements](#)
[Algebra II Grade Distributions](#)

Calculus BC

Calculus Homework
[Calculus Handouts](#)
[Calculus Links](#)
[Calculus Test Announcements](#)
[Calculus Grade Distributions](#)

Calculus Homework

Textbook Collection: June 14th in class.

The most recent homework is at the top of the page.

HW #	Due	Assignment
		NO MORE HOMEWORK Thurs: Test on Post AP exam lessons; bring handwritten two-sided 8.5" by 11' sheet of paper Fri: party and book return
69	6/10 Mon	Write an epsilon-delta proof to prove that the limit of a product is the product of the limits. If you want a hint, read below. Hint: Suppose $f(x)$ approaches L_1 and $g(x)$ approaches L_2 . Then write $f(x)g(x) - L_1L_2$ as $((f(x) - L_1) + L_1)((g(x) - L_2) + L_2) - L_1L_2$ and then distribute.
68	6/7 Fri	p. 80-81 # 32, 37
67	6/5 Wed	Read p. 72-75 . Do p. 80-81 # 3, 13, 17, 19, 31 Here are some solutions to the previous homework: H.W. 66 Solutions
66	5/31 Fri	p. A62 44-46, 48-50 Equation 7 referred to in problem 49 is just $e^{x+iy} = e^x(\cos y + i \sin y)$. Example 4 (referred to in problem 50(c))
65	5/28 Tue	No written homework. Next in-class test is Thurs.
64	5/23 Thu	No written homework. Study theorems and formulas.
63	5/22 Wed	BC 2019 Free Response #3 (no calculator)
62	5/21 Tue	BC 2019 Free Response #1 (calc allowed), 5 (no calc) Also, here is message from Ivan Galakhov and Leon Maksin: Hey y'all! Adam, Sam, Vanya, and Jude and I are proud to finally announce the first annual Stuyvesant Integration Bee! For those who are still unaware, Integration Bees are math

		<p>competitions that focus on problems of integration, a core aspect of calculus, started by MIT and held annually since.</p> <p>The contest will be held May 28 at 4pm (location in Stuy is tentative).</p> <p>Prizes (like gift cards!) will be awarded to first and second placing participants. Virtually every problem can be done using the stuff learned in AP Calc BC, so don't be scared to compete. To sign up and to view rules, please visit the website linked below. Please only sign up if you plan on actually participating, because we will assume that for the sake of head counting.</p> <p>http://homer.stuy.edu/~igalakhovoo/integrationbee.html</p>
61	5/20 Mon	<p>1) BC 2014 Free Response #6 (no calc)</p> <p>2) BC 2019 Free Response #2, 4, 6 (calc for #2 only)</p>
60	5/17 Fri	<p>1) BC 2014 Free Response #4, 5 (no calc)</p> <p>2) Start studying and remembering formulas and hypotheses and conclusions of theorems. It's not perfect, but there's a review of the year on the "Calculus Links" page. Calculus BC Review Sheet</p> <p>One of the reasons it's not perfect is that it includes formulas you do not need to know, like the Shell Method for volume.</p>
59	5/16 Thu	<p>BC 2017 Free Response #4 (no calc)</p> <p>BC 2013 Free Response #6 (no calc)</p>
58	5/15 Wed	<p>Do on loose leaf or print on one page.</p> <p>#2: Calculator permitted</p> <p>#5: No calculator permitted</p> <p>BC 2017 Free Response 2, 5 only</p>
57	5/14 Tue	<p>I'd prefer that you use loose leaf, but if you want to print instead, then please staple.</p> <p>Nine MC Qs with Tables</p>
56	5/13 Mon	<p>Do problems 1 and 4.</p> <p>For # 1, use a calculator.</p> <p>For # 4, do not.</p> <p>2012 BC FR</p> <p>Also, I want to apologize, dear students, for a mistake I made in the "non-review" problems that some of you have.</p> <p>e^x should be a factor in the integrand of #6, not #8.</p> <p>Sorry for the headache.</p> <p>Here is a revised copy, but with shading omitted from #14. (Shading should be there.)</p> <p>Non-review Problems</p>
55	5/10 Fri	<p>On loose leaf,</p> <p>solve only number 1.</p> <p>A calculator <u>is</u> permitted.</p> <p>2017 FR 123</p>

54	5/9 Thu	<p>Solve on loose leaf. No calculator is permitted. Aim for 9 points.</p> <p><u>2014 FR 3</u></p>
53	5/8 Wed	<p>On loose leaf, solve only number 3. <u>No</u> calculator is permitted.</p> <p><u>2017 FR 123</u></p> <p>Also, please bring today's handout to class tomorrow. We will continue working on it.</p>
52	5/7 Tue	<p>On loose leaf:</p> <p>1) <u>2003 FR 2</u> (Use a calculator.)</p> <p>2) Today's handout: <u>8 and 9</u> (For 9, use calculator.)</p>
51	5/6 Mon	<p>Fill out Google form.</p> <p><u>81-92</u></p>
50	5/3 Fri	<p>Fill out Google form.</p> <p><u>18-28 and 76-80</u></p>
49	5/2 Thu	<p>Fill out Google form.</p> <p><u>Questions 1-17</u></p>
48	5/1 Wed	<p>Do all the problems from today's handout. Then check your answers.</p> <p><u>Techniques of Integration Review</u></p> <p><u>Answers to Integration problems</u></p> <p>By the way, Wed-Fri, we will do MC quest of recent unreleased AP exam. Please do not write on the question paper, as I will collect and reuse for other classes. Bring scrap paper and record your answers because you will check.</p>
47	4/30 Tue	<p><u>2018 FR 345</u> (no calculators)</p> <p>Students listed below, please write solutions on the board tomorrow:</p> <p>Period 1: Aidan (3), Alex T. (4), Fabiha (5)</p> <p>Period 2: Tina (3), Eric (4), Clara (5)</p> <p>Period 9: Jamie (3), Celina (4), Karen(5)</p> <p>Also, students who volunteered in class today, please write solutions to multiple choice questions.</p>

46	4/29 Mon	<p>Set aside 3 hours and 15 minutes to devote to an entire AP Exam, or complete it in 4 sittings. Test yourself under exam conditions: no peeking at formulas, no more time than test time will allow, etc.</p> <p>When you are done, please grade your test and fill out the google form to indicate which MC questions you got wrong, so I know which topics to emphasize in a review.</p> <p>The format for the 2008 exam is different from the current one:</p> <p>Part IA: 28 qs, 55 min, no calculators Part IB: 17 qs, 50 min, calc required Part IIA: 3 qs, 45 min, calc req Part IIB: 3 qs, 45 min, no calc</p> <p>2008 Multiple Choice</p> <p>2008 Free Response Qs</p> <p>2008 BC MC Answer Key</p> <p>2008 FR Solutions</p> <p>Google form for questions you got wrong</p> <p>By the way, we will likely do the MC section, under test conditions, of an unreleased AP exam on May 1, 2, and 3, because those are the last days before the general AP exam period.</p>
45	4/16 Tue	<p>Use a calculator:</p> <p>2018 Free Response #1, #2</p> <p>Students who will write and explain solutions to # 1 and 2, respectively, on the front board at start of class:</p> <p>Pd 1: Ivan, Junhee Pd 2: Michael R, Maxwell Pd 9: Aaron, Abner</p> <p>We will likely score each others' solutions (0-9 points each).</p>
44	4/15 Mon	<p>If you did not get your test back yet, just do the supplement. After you get your test, do the test corrections.</p> <p>I will not provide answers for this assignment, because I want you to look at your notes and textbook. If you can't answer a question, then seek help.</p> <p>This assignment is only for students who scored less than 90 on the last test. No, you are not seeing things. Yes, it is optional if you scored 90 or above.</p>

		<p>Do all on loose leaf:</p> <p>1) Supplement to Test Corrections</p> <p>2) Correct each mistake you made on the test. Justify using theorems or definitions if applicable.</p>
43	4/12 Fri	<p>Do <u>not</u> use a calculator:</p> <p>2009 FR4B and Solution</p> <p>Now use a calculator:</p> <p>2005 FR2 and Solution</p>
42	4/11 Thurs	<p>You may use a calculator.</p> <p>2003FR3 and Solution</p> <p>1996FR6 and Solution</p> <p>Note: I have decided that next week's test will cover the topics on the last test, plus polar coordinates. Periods 2 and 9: I will try to get your tests graded by Friday.</p>
41	4/10 Wed	<p><u>Directions:</u></p> <p>1) Sketch the graphs of the polar equations as part of your solutions.</p> <p>2) Use your calculator for problems 43 and 44.</p> <p>p. 692-694 38, 39, 43, 44</p> <p>H.W. 41 Solutions</p>
40	4/9 Tue	<p>Only for question 2 may you use a calculator:</p> <p>MC 18</p> <p>H.W. 40 Solutions</p>
39	4/8 Mon	<p>p. 686-688 58, 62</p> <p>p. 692-694 2, 4</p> <p>H.W. 39 Solutions</p>
38	4/5 Fri Test Thu 4/4	<p>1) p. 686-688 56, 61, 74</p> <p>2) Show that if a polar curve passes through the pole, then at the pole, $dy/dx = \tan(\theta)$, if $dr/d(\theta)$ is not zero.</p> <p>H.W. 38 Solutions</p>
37	4/3 Wed	<p>MC 17 and FR Question</p> <p>(calculator okay for MC, but not FR)</p>

		<u>H.W. 37 Solutions</u>
36	4/2 Tue	<p><u>2014FR6</u> (no calculator) <u>2009FR6</u> (DON'T DO #5; no calculator) <u>2008FR3</u> (calculator permitted)</p> <p>College Board Solutions: <u>2014BC6 Solution</u> <u>2009 FR6 Solution</u> <u>2008FR3 Solution</u></p>
35	4/1 Mon	<p>1) On loose leaf, thoughtfully and thoroughly correct each mistake you made on your test. For example, if you mistakenly thought a statement was true, you should explain why it is false and provide a counterexample. Your corrections should invoke definitions or hypotheses and conclusions of theorems, and not be based on any feelings that you have. You should also explain why you made the mistake you did. You should be specific instead of just stating "careless" mistake. If you got 100%, then provide a solution to the extra credit problem, which was to evaluate the sum, from $n = 1$ to infinity, of</p> <p>pd 1: $n^2/4^n$ pd 2: $n^2/5^n$ pd 9: $n^2/2^n$</p> <p>2) Start studying for next test. Memorize Maclaurin series for $\sin x$, $\cos x$, and e^x. It's often helpful to know the others on the handout I gave you, as well.</p>
34	3/29 Fri (Test Thur)	<p>No calculators: <u>2015FR6</u> <u>2016FR6</u> <u>2017FR6</u></p> <p><u>H.W. 34 Solutions</u></p> <p>Correction: In 2016 part (d), inequality should be less than or equal to. Thank you, Ivan.</p>
33	3/27 Wed	<p>AP Free Response Questions on side 2 of today's handout</p> <p><u>2011B, 2010, 2010B</u></p> <p><u>H.W. 33 Solutions</u></p> <p>Correction: 2011B part (c): 4th term of $f'(x)$ has a missing negative. Thank you, Aidan.</p>
32	3/26 Tue	<p>Note: Previous HW solutions had <u>mistake</u> in explanation for problem 4. Sorry for the confusion! See explanation under link to HW 31 Solutions.</p> <p><u>p. 802-804</u> 11-25 (odd), 34, 38, 39</p> <p><u>H.W. 32 Solutions</u></p>

		<p>Test Thurs will likely be</p> <p>17 multiple choice, no partial credit,</p> <p>with only 4 points deducted from 100</p> <p>for each wrong answer.</p> <p>This is because our next test is</p> <p>one week later.</p>
31	3/25 Mon	<p>p. 802-804</p> <p>1) True-False Quiz: 2, 4, 7, 12</p> <p>2) Exercises: 7, 12-26 (even), 27, 35</p> <p>H.W. 31 Answers not Solutions</p> <p>H.W. 31 Solutions</p> <p>Correction to problem 4:</p> <p>A correct reason for the truth of the statement is that the series is a power series centered at 0 and $x=6$ is in the interval of convergence. Therefore, the radius of convergence is at least 6, so $x=-2$ is in the interval of convergence as well.</p> <p>Thank you to Jonathan for questioning the validity of my original solution!</p> <p>Test is Thurs. See announcements page for details.</p>
30	3/22 Fri	<p>1) Review the Alternating Series Estimation Theorem and use a calculator:</p> <p>p. 755-756 24, 26</p> <p>2) MC 16</p> <p>H.W. 30 Solutions</p> <p>Will announce test date tomorrow. Awaiting more responses.</p> <p>Correction to practice test from class today:</p> <p>Problem 10</p> <p>Choice A</p> <p>should be $3 - 1 + 1/3 - 1/9 + 1/27 - \dots$</p> <p>Thank you, Hedy.</p>
29	3/21 Thurs	<p>p. 789-790 20 (don't write this one in sigma notation),</p> <p>32, 34, 49, 64</p> <p>H.W. 29 Solutions</p> <p>Addendum: I forgot to find the radius of convergence for #20. It's 16 by the ratio test, but you may omit that part of the question.</p> <p>Thanks to Isaac for alerting me!</p>
28	3/20 Wed	<p>p. 789-790 2, 4, 18, 38, 56</p> <p>H.W. 28 Solutions</p>

27	3/19 Tue	<p>1) MC15 no calculators</p> <p>2) 2018BCFR6 no calculators</p> <p>Note: A "Taylor polynomial of degree n about $x = a$" is the partial sum of the Taylor series about $x = a$ for f that has degree n.</p> <p>H.W. 27 Solutions</p> <p>Correction: In #5, I kept referring to $2^n - 1$ instead of $2^n - n$. Thanks to Bill for the catch.</p> <p>Sorry, scanner has a mind of its own and rotated the second page.</p>
26	3/18 Mon	<p>Please answer on loose leaf.</p> <p>Analysis of a Series</p> <p>H.W. 26 Solutions</p>
25	3/15 Fri	<p>p. 775-777 5, 8, 13, 37, 39</p> <p>H.W. 25 Solutions</p>
24	3/14 Thu	<p>1) p. 764-765 22-38 (even)</p> <p>2) 2016FR5</p> <p>H.W. 24 Solutions</p>
23	3/13 Wed	<p>1) p. 764-765 2-20 (even)</p> <p>2) 2016FR3 no calculator</p> <p>H.W. 23 Solutions (correction (thanks to Melbourne): #14 should say $\sin 2n$, not $\sin n$)</p>
22	3/12 Tue	<p>1) MC 14</p> <p>2) p. 761-763 1, 2 3, 4</p> <p>H.W. 22 Solutions</p> <p>Correction: In problem 7, solutions should say $g'(0) = 2$ and $g'(3) = -1$, not the other way. Big thanks to Michelle for catching that!</p>
21	3/11 Mon	<p>p. 744-746 22</p> <p>p. 750-751 20</p> <p>p. 755-756 17, 24, 31</p> <p>2015FR3 (no calculator)</p> <p>H.W. 21 Solutions</p>
20	3/8 Fri	<p>p. 724-726 92a</p>

	(Test Thu)	<p>p. 750-751 4, 8, 12, 28, 30</p> <p>p. 755-756 6, 14</p> <p>2015FR5 (no calculator)</p> <p>H.W. 20 Solutions</p>
19	3/6 Wed	<p>p. 802-804</p> <p>Concept Check: 1-4, 5ab</p> <p>True-False Quiz: 1-3, 9, 11, 14-16, 19-22</p> <p>H.W. 19 Solutions</p>
18	3/5 Tue (Snow day Monday!)	<p>1) 2012FR2 (Use calculator.)</p> <p>2) Review Problems</p> <p>2012FR2Ans</p> <p>H.W. 18 Solutions</p>
17	3/1 Fri	<p>1) 2015FR2 (Use calculator.)</p> <p>2) p. 735-738 17, 23, 25, 30, 31, 49, 59, 64, 73</p> <p>HW solutions:</p> <p>2015FR2Ans</p> <p>H.W. 17 Solutions</p> <p>By the way, thank you to Abner and Ariel for pointing out the fact that I made an error on problem 43 of HW 15. It should be $s_n = 3/2 - 1/(n+1) - 1/(n+2)$.</p>
16	2/28 Thu	<p>MC13</p> <p>p. 735-738 29, 33, 39, 45, 67</p> <p>H.W. 16 Solutions</p>
15	2/27 Wed	<p>MC12</p> <p>p. 735-738 2, 5, 7, 15, 43</p> <p>For 5 and 7, use a calculator.</p> <p>H.W.15 Solutions [Correction: #43: s_n should be $3/2 - 1/(n+1) - 1/(n+2)$]</p>
14	2/26 Tue	<p>MC11</p> <p>p. 724-726 44-52 (even), 74, 76, 78</p> <p>H.W. 14 Solutions</p>
13	2/25 Mon	<p>MC10</p> <p>p. 724-726 23-53 (odd)</p>

		<u>H.W.13 Solutions</u>
12	2/15 Fri (Test Thu)	<u>MC 9</u> <u>p. 724-726</u> 8,9, 24, 28, 32, 42 <u>H.W. 12 Solutions</u>
11	2/13 Wed	<p>Apparently, no one proofread the AP pages of the textbook. Note these corrections before you begin: Problem 6: Every M should be a B. Problem 9: Insert "two" before "steps."</p> <u>Chapter 9 AP Review</u> 1-10 <u>p. 675-677</u> 13, 37 <u>H.W.11 Solutions</u>
10	2/12 Tue	<p>Thank you again to Nadine for creating PDFs.</p> <u>Chapter 7 AP Review</u> 4, 5, 7, 9ab, 10bc <p>Note: In problem 7, insert "converges" before "?"</p> <u>Chapter 8 AP Review</u> 1, 4 <u>H.W. 10 Solutions</u>
9	2/11 Mon	<p>The homework is a little long because I want you to start reviewing for Thursday's test. Give yourself enough time to finish.</p> <u>HW 9</u> <u>H.W. 9 Solutions</u> (Sorry, the scanner has a mind of its own.)
8	2/8 Fri	1) <u>MC 8</u> 2) <u>p.551-553</u> 57 <u>p. 567-568</u> 21 <u>H.W. 8 Solutions</u>
7	2/7 Thu	1) <u>MC 7</u> calculator required 2) <u>2016FR4 and 2013FR5</u> no calculator <u>H.W.7 Solutions</u> [Correction: last line of problem 4's solution: I left out the prime of $g'(10)$. It should say $g'(10) = f(10)$. Thank you, Brandon.]
6	2/6 Wed	1) <u>2018FR6</u> (no calculator) 2) <u>MC6</u> (calculator required) <p>Sorry, but page 1 of solutions scanned upside down.</p> <u>H.W.6 Solutions</u>
5	2/4 Mon	1) <u>MC5</u> 2) <u>p.551-553</u> 35 <u>p. 567-568</u> 16 (Hint: Consider domain for endpoints.)

		<p>p. 616-618 3</p> <p>p. 624-626 8</p> <p>H.W. 5 Solutions</p>
4	2/1 Fri	<p>1) MC4 (Mistake in #2: I left out dx.)</p> <p>2) p.551-553 44</p> <p>p. 624-626 26, 39 (For 26, use Desmos but you don't have to copy graphs or describe them.)</p> <p>H.W. 4 Solutions</p>
3	1/31 Thu	<p>1) MC3</p> <p>2) p.551-553 22, 34</p> <p>p. 624-626 6, 12, 24 (Use Desmos with slider.)</p> <p>p. 637-640 4</p> <p>H.W. 3 Solutions Correction: In #6, it should be 2s on right-hand side, not 2. Previous line should have s, not 1.</p> <p>Thank you to Alex T. and Amanda for the catch.</p>
2	1/30 Wed	<p>1) Read new grading policy and submit google form.</p> <p>AP Calculus BC Grading Policy Spring 2019</p> <p>Spring Term Google Form</p> <p>Do all of the following homework on loose leaf. You don't have to copy every word of each problem. Remember to check and make corrections before submitting.</p> <p>2) Multiple choice questions MC2</p> <p>3) Textbook questions:</p> <p>p.551-553 14, 30</p> <p>p. 567-568 4</p> <p>p. 624-626 2, 4</p> <p>Homework 2 Solutions</p>
1	1/29 Tue	<p>2012 Exam Multiple Choice</p> <p>If you don't want to, do not copy problems.</p> <p>Solve on loose leaf. Staple if more than one page.</p> <p>This may take you 1-2 hours, so give yourself enough time.</p> <p>Part A (no calculator): 1, 3, 4, 6- 8, 10, 11, 15, 18-21, 24, 25, 28</p> <p>Part B (calculator): 76-78, 80-89, 92</p>

		2012 Exam Answers HW 1 Term 2 Solutions
75	1/18 Fri (Final Exam Thur)	<p>p. 551-553 6, 8, 10, 18, 20, 24, 28, 32, 40</p> <p>HW 75 Solutions</p>
74	1/16 Wed	<p>p. 360-363 56, 58</p> <p>p. 256-262 10, 21</p> <p>p. 276-278 Exercise 11</p> <p>p. 191-193 69, 70, 71</p> <p>HW 74 Solutions [Correction (thank you to Lily and Alexa): the integrand in #58 is NOT $4y$, b $4(1-y)$ because x^2 is not y, but $1 - y$.]</p> <p>Answers to Handout of Integrals</p> <p>Here are a couple more old departmental finals, if you are interested, but they don't cover integration by parts or partial fractions.</p> <p>2008 and 2007 BCCalc Final Exams</p> <p>I didn't have time to write detailed solutions, but I have answers I wrote on post-its several years ago:</p> <p>2008 and 2007 Answers</p>
73	1/15 Tue	<p>p. 492-494 23, 24, 26</p> <p>p. 516-518 11, 16</p> <p>p. 418-420 55</p> <p>p. 306-309 72</p> <p>p. 180-183 10</p> <p>HW 73 Solutions</p>
72	1/14 Mon	<p>2009 BCCalc Final Exam Part II</p> <p>For 23(c) use the graph to write an <u>estimate</u>.</p> <p>Do all work on loose leaf.</p> <p>HW 72 Solutions Thank you to Junhee for the correction:</p> <p>#22d - upper limit of integration should be 4, not 2.</p> <p>I will also post solutions to today's handout.</p>
71	1/11 Fri (Test Thu)	<p>Calc BC Final Exam 2009 #1-20</p> <p>Note : "normal" means perpendicular, so slope of normal line is negative reciprocal of slope of tangent line.</p> <p>Either print, staple, and do the entire HW on the</p>

		<p>exam itself, or use loose leaf if you wish.</p> <p>Unfortunately, the second page is upside down. Sorry.</p> <p>HW 71 Solutions</p>
70	1/9 Wed	<p>2016 Calc AB Free Response Qs 1, 2</p> <p>2016 AB FR Solutions</p>
69	1/8 Tue	<p>p. 326-329 47,58</p> <p>p. 335-337 64 (optional), 68-84 (even)</p> <p>p. 360-363 43,55</p> <p>p. 378-379 12-14,31</p> <p>HW 69 Answer Key AND Solutions</p>
68	1/7 Mon	<p>Here is a problem set, followed by solutions.</p> <p>Also, do free response questions 1 and 3 from the 2015 BC exam.</p> <p>Some questions require a calculator.</p> <p>HW 68 and Solutions</p> <p>2015 Free Response Qs</p> <p>2015 Free Response Solutions</p>
67	1/4 Fri	<p>p. 349-350 55, 56, 57</p> <p>p. 360-363 29, 30, 32, 33, 36, 45a</p> <p>HW 67 Solutions</p> <p>HW 65 Solutions</p>
66	1/3 Thu	<ul style="list-style-type: none"> • p. 349 38, 40 (Answers: (38) 2.38919; (40) 1.70413) • After p. 342: Chapter 4 AP Review Questions: 2-8 (no pdf) • Note: Show all work; in #7 the integrand should be $s'(t)$; • Answers: c, c, d, a, d, d, b • Kuta Software Sheet 1-4 (Answers follow on next page.)
65	1/2 Wed	<p>HW 65 Answers are on second page, but not detailed solutions.</p>
64	12/21 Fri	<p>p. 338-340 38, 44, 51</p> <p>Typed side of area handout: 13</p> <p>Area Between Curves, side 1</p> <p>HW 64 Solutions</p>
63	12/20 Thu	<p>Handwritten side of area handout: 2, 13-16</p> <p>Answer key is on handout, but no solutions will be provided. I would like to see how you do on your own.</p> <p>Area Between Curves, side 2</p>
62	12/19 Wed	<p>Notes:</p> <p>For #3, I think it should say, "$f(x)$ is not zero if x is not zero" instead of "$f(x)$ is never zero."</p> <p>For #4, you may use Desmos with a slider for c instead of your calculator, if you like.</p> <p>For # 6, there will be an integral in the answer, because the antiderivative of $\sin(x^2)$ cannot be written in closed form.</p>

		p. 342 1, 3, 4, 5, 6, 10 Hints and Answers HW 62 Solutions
61	12/18 Tue	p. 318-320 74, 76, 78 p. 326-329 56, 60, 69, 70, 71 p. 335-337 28, 46, 48 HW 61 Solutions
60	12/17 Mon	p. 318-320 2, 6, 8, 12, 52, 54, 64, 69 p. 326-329 2, 48, 50, 52 HW 60 Solutions
59	12/14 Fri (Test Thu)	Today's handout: 2013, 2012 Here are the College Board's official solutions. The right side contains the breakdown of the nine points for each problem. Some problems on the BC test also appear on the AB test. That's why it says AB for the first problem. HW 59 Solutions
58	12/12 Wed	Yesterday's Handout on FTC I: #2, 3, 4 on loose leaf. FTC I Problems HW 58 Solutions
57	12/11Tue	Review Questions 12-20 Answers to 12-20
56	12/10 Mon	If you are attending music rehearsal, please give your HW to a classmate to submit, or place it in my mailbox on the second floor. Review for Calculus Test 5 Answers to 1-11
55	12/7 Fri	p. 256-262 62, 69 p. 338-340 3, 4, 12-20 (even), 26, 28, 49 p. 375-376 16, 17 p. 481-484 92-96 (even), 115 HW 55 Solutions I inadvertently omitted the answer to #18. It's $2/(3\pi)$. Thanks to Ranauk for alerting me.
54	12/6 Thu	p. 256-262 16 p. 318-320 61 p. 338-340 Exercise 1 p. 375-376 4 p. 481-484 Exercises 3, 32, 69, 72, 114 HW 54 Solutions Correction: Problem 16; penultimate line: numerator should be 180, not 120. Thanks to Clara for catching that.

53	12/5 Wed	<p>p. 306-309 29, 37, 39</p> <p>p. 318-320 26-36 (even), 48, 55, 74, 76, 78</p> <p>HW 53 Solutions</p> <p>Period 1 students: the answer key for today's worksheet <u>was</u> correct.</p> <p>Please change the answer to (b) back to $-\sqrt{2}/2$.</p>
52	12/4 Tue	<p>p. 306-309 38, 42, 52, 53</p> <p>p. 375-376 15</p> <p>p. 481-484 26, 56</p> <p>HW 52 Solutions</p>
51	12/3 Mon	<p>p. 276-278 53-58</p> <p>p. 306-309 5, 34, 40, 47, 51</p> <p>HW 51 Solutions</p>
50	11/30 Fri	<p>p. 293-295 6, 19, 23</p> <p>p. 306-309 27 (For now, assume $a > 0$, $b > 0$, and $a < b$.)</p> <p>HW 50 Solutions</p>
49	11/29 Thu	<p>p. 273-275 66 (Pay attention to units.)</p> <p>p. 293 2 (Eyeball the heights.)</p> <p>p. 459-461 42</p> <p>HW 49 Solutions</p>
48	11/28 Wed	<p>p. 273-275 42, 48, 54, 57 (use $a = -9.8 \text{ m/s}^2$), 58</p> <p>p. 459-461 44, 46</p> <p>HW 48 Solutions</p>
47	11/27 Tue	<p>p. 273-275 32-40 (even)</p> <p>p. 401-403 92</p> <p>p. 418-420 88</p> <p>p. 459-461 57</p> <p>HW 47 Solutions</p>
46	11/26 Mon	<p>p. 256-262 48</p> <p>p. 273-275 2-18 (even), 28, 30</p> <p>p. 391 46</p> <p>p. 459-461 36</p> <p>HW 46 Solutions</p> <p>Correction: At the end of problem 48 (second to last line),</p> <p>I meant to write \max at $\pi/6$, not $\pi/2$. I caught that.</p> <p>Correction #2: On the last part of the last problem,</p>

		<p>I incorrectly wrote the notation for f inverse instead of f prime.</p> <p>Thank you to Ariel for the astute observation!</p>
45	11/21 Wed	<p>p. 477-480 8-32 (multiples of 4), 34, 71, 72, 73, 93</p> <p>HW 45 Solutions</p> <p>Celina just sent me a link to this video: Calculus Rhapsody</p>
44	11/20 Tue	<p>p. 256-262 34, 35</p> <p>p. 391 44</p> <p>p. 459-461 40</p> <p>HW 44 Solutions</p>
43	11/19 Mon	<p>p. 256-262 26, 38 (round ans to nearest 100th)</p> <p>p. 391 36, 40</p> <p>HW 43 Solutions</p>
42	11/16 Fri (Test Thu)	<p>p. 459-461 1-10, 26, 28, 30, 38</p> <p>p. 391 42</p> <p>HW 42 Solutions</p> <p>Thank you to Yifan for pointing out that if the range of $\cot^{-1} x$ is $(0, \pi)$, then the answer to 4(a) is $5\pi/6$.</p> <p>Unfortunately, there is no universal agreement for the range, although $(0, \pi)$ certainly seems like the better one.</p>
41	11/14 Wed	<p>Review Questions 13-25</p> <p>HW 41 Solutions</p>
40	11/13 Tue	<p>Study answers to 1-4 and do on looseleaf: Review Questions 5-12 (For #6, it should say "numbers" instead of "values." For #11, <u>estimate</u> some of the answers.)</p> <p>MCS43X Test 4 Review Questions</p> <p>HW 40 Solutions</p>
39	11/9 Fri	<p>p. 401-403 54, 63abc (Use grapher for (c)), 66, 78</p> <p>p. 418-420 36, 42, 93</p> <p>HW 39 Solutions</p>
38	11/8 Thu	<p>Do 15-26 on loose leaf paper.</p> <p>Problems Involving Derivatives of e^x and $\ln x$</p> <p>HW 38 Solutions</p>
37	11/7 Wed	<p>Please print and complete.</p> <p>Derivatives of e^x and $\ln x$ Joke Sheets</p>

		HW 37 Solutions
36	11/5 Mon	<p>p. 276-278 True/False: 5-17, with explanations or counterexamples</p> <p>HW 36 Solutions</p>
35	11/2 Fri	<p>1) BRING GRAPHING CALCULATOR</p> <p>2) p. 220-223 40, 49, 51, 66</p> <p>p. 242-244 22, 28</p> <p>HW 35 Solutions</p> <p>HW 34 Solutions</p>
34	11/1 Thu	<p>Do on loose leaf: #12-16 from today's handout.</p> <p>Note: for problem 9, add "for x not equal to zero" to the question.</p> <p>Problems Involving the First and Second Derivatives</p> <p>Answer Key, not detailed solutions</p> <p>I want to see <u>your</u> explanations.</p> <p>I'll post detailed solutions tomorrow.</p>
33	10/31 Wed	<p>p. 220-223 16, 18, 20, 28, 36</p> <p>HW 33 Solutions</p>
32	10/30 Tue	<p>p. 212-213 27 (Use the Mean Value Theorem.)</p> <p>p. 220-223 6, 10ab, 12ab, 14ab, 69; Optional: 70</p> <p>If your answers to 10, 12, and 14 are <u>open</u> intervals, that's okay.</p> <p>HW 32 Solutions Just found my own mistake in 70. Last denominator should have exponent of 3, not 2. It doesn't change what follows.</p>
31	10/29 Mon	<p>p. 276-278 True/False: 1-4; Exercises: 2, 4, 6, 33</p> <p>Use the closed interval method to find abs max/min.</p> <p>You may look at graphs to determine local max/min.</p> <p>HW 31 Solutions</p>
30	10/26 Fri (Test Thu)	<p>p. 204-206 48, 52, 56, 68</p> <p>p. 212-213 4, 14, 24, 32</p> <p>Hw 30 Solutions</p>
29	10/24 Wed	<p>p. 191-193 1ai, 7, 36, 43, 73</p> <p>p. 204-206 6 (absolute max means <u>the</u> max), 14, 34, 38, 54</p> <p>HW 29 Solutions CORRECTION: IN #6, IT SHOULD SAY (2, 2) INSTEAD OF (1,2)</p> <p>AND $f(2)=2$ INSTEAD OF $f(1) = 2$. Thanks, Leon, for the catch.</p>
28	10/23 Tue	<p>p. 180-183 20, 24</p> <p>p. 191-193 8, 9, 26, 68, 89</p>

		HW 28 Solutions
27	10/22 Mon	<p>Complete all problems on loose lesf.</p> <p>MCS43X Test 3 Review Questions</p> <p>HW 27 Solutions (#7: I forgot to write units: all values of t are in hr and a is in km/hr^2)</p> <p>Unclaimed homework:</p> <p>Whose HW is this ?</p>
26	10/19 Fri	<p>(Used OneNote on Stuy computer to create PDF file. Formatting is not the same as one I've been using. Hope it's okay.)</p> <p>p. 180-183: 6, 8, 14, 16, 18</p> <p>HW 26 Solutions</p>
25	10/18 Thu	<p>p. 161-162 16, 18, 26, 34</p> <p>p. 173 3ei</p> <p>p. 174-175 12a, 30</p> <p>p. 188 : 30</p> <p>HW 25 Solutions</p>
24	10/17 Wed	<p>p. 154-156 62, 65</p> <p>p. 161-162 2, 12, 30</p> <p>p. 173 2, 6a</p> <p>p. 188 23</p> <p>HW 24 Solutions</p>
23	10/16 Tue	<p>p. 146-148 39-47 odd</p> <p>p. 173 1, 5</p> <p>p. 188 26, 27</p> <p>p. 193 87</p> <p>HW 23 Solutions</p>
22	10/15 Mon	<p>Rectilinear Motion On loose leaf, do 14, 24, 34, 35</p> <p>HW 22 Solutions (praying for no mistakes)</p> <p>Thank you, Qichen and Alvin, for pointing out my omission of 14 (e). Here's the solution: $s(2) - s(0) + s(5) - s(2) = 1/4 + 9/116 = \mathbf{19/58}$ I'll try harder next time.</p>
21	10/12 Fri (test Thu)	<p>Rectilinear Motion On loose leaf, do 2-12 (even).</p> <p>HW 21 Solutions CORRECTIONS: 12(b) s(1) = -1</p> <p>Therefore, each 7 in part (e) should be -1, so the answer to (e) is 611.</p> <p>Also, I copied s(t) wrong. Boo hoo.</p> <p>Thank you, Stacey, for the alert.</p>

20	10/10 Wed	<p>MCS43X Test 2 Review Questions Answer on loose leaf.</p> <p>HW 20 Solutions ANSWER TO #13 WAS CUT OFF. IT'S 13/4.</p>
19	10/9 Tue	<p>p. 154-156 8-52(multiples of 4), 63, 67, 87</p> <p>HW 19 Solutions BIG mistake in solution to #44.</p> <p>A million thanks to Aaron for catching it so early!</p> <p>Here is the correction:</p> <p>Problem 44 revised solution</p> <p>Optional: Also, there are differentiation joke sheets on the Handouts page, if you feel you need more practice.</p>
18	10/5 Fri	<p>p. 146-148 22, 24, 28a, 30, 34, 37, 40-48(even), 56</p> <p>HW 18 Solutions Addendum to solutions: In #56, what I mean is "when $x > 0$, but NEAR 0", "not $x > 0$, period." (Consider only near 0, since we're taking lim as x goes to 0.)</p> <p>Correction to solutions: In alternate solution to #56, it should say $\sin(2x)$ instead of $\sin(x)$. Sorry again, kids. Thank you, Matthew Chan, for catching this mistake.</p>
17	10/4 Thu	<p>p. 136-139 54, 84, 86, 103, 104</p> <p>HW 17 Solutions</p>
16	10/3 Wed	<p>p. 136-139 4-44 (multiples of 4 only), 68, 72, 78</p> <p>HW 16 Solutions</p>
15	10/2 Tue	<p>Two-sided handout HW 15</p> <p>Either print and complete or don't print and ans on loose leaf.</p> <p>HW 15 Solutions Correction: Sorry, kids. In #5, for some reason I kept writing $-1/2$ instead of $1/2$ in the limit. Thank you, Bing, for the catch.</p>
14	10/1 Mon	<p>p. 123-125 14, 16, 29, 33, 39, 44</p> <p>p. 235 19, 32</p> <p>HW 14 Solutions Addendum: In #29, dom of f and f' are the set of real #s.</p>
13	9/28 Fri (test Thu)	<p>p. 113 46, 49, 51</p> <p>p. 122 3, 12</p> <p>p. 124 26, 38</p> <p>HW 13 Solutions Correction: In #46, the exponent is misplaced in the third line. The 2 should be outside the (). Thank you to Melbourne for the catch.</p>
12	9/26 Wed	<p>p. 92: 47a, 49, 50</p> <p>p. 234-235: 3, 8, 10, 17, 18, 20, 28, 37, 38</p> <p>If answer is + or - infinity, write that.</p> <p>Do not write properties, as directed.</p> <p>p. 92</p> <p>p. 234-235</p> <p>HW 12 Solutions Correction to #10: I left out a negative, but ans is still 0.</p>

11	9/25 Tue	<p>For this HW, I recommend using $f'(a) = \lim_{x \text{ approaches } a} \frac{f(x) - f(a)}{(x-a)}$.</p> <p>p. 111-113: 7, 8, 14, 17, 18, 19, 34, 36, 38, 43</p> <p>p 111-113</p> <p>HW 11 Solutions</p> <p>Also, this is <u>optional</u>:</p> <p>Read the last problem on the IVT sheet.</p> <p>Then watch this video and/or read the article:</p> <p>Table turning video</p> <p>Table turning article</p>
10	9/24 Mon	<p>MCS43X Test 1 Review Questions</p> <p>HW 10 Solutions</p>
9	9/21 Fri	<p>1) IVT sheet (in case you lost yours, it is posted on Handouts page): 2, 5 (5(c) is missing $f(x) =$)</p> <p>2) p. 94 (True-false): 11, 12, 25, and</p> <p>p. 96: 23, 45</p> <p>HW 9 solutions</p>
8	9/20 Thu	<p>p. 71: 54, 57, 63</p> <p>p. 92: 51</p> <p>p. 102: 5, 6, 7, 11</p> <p>Addendum to HW solutions:</p> <p>#63) After $a = 15$, find the limit by first factoring the numerator and denominator and canceling $(x + 2)$. The limit is -1. (Thank you to Raunak for the alert.)</p> <p>HW 8 Solutions</p> <p>Also, Amit caught the mistake I made in #5. The second term of the trinomial factor I multiplied by should be the cube root of x, not x. Sorry, folks! (Also, a nice substitution instead would be to let y be equal to the sixth root of x.)</p>
7	9/18 Tue	<p>Compute all limits on loose leaf. Do not print sheet.</p> <p>Joke Sheet 2</p> <p>HW 7 Solutions</p>
6	9/17 Mon	<p>p. 60: 27</p> <p>p. 61: 29-33</p> <p>p. 71: 62</p> <p>HW 6 Solutions (Correction to 27(b): all values of y should be negative.)</p>
5	9/14 Fri	<p>1) Complete joke sheet Joke Sheet 1</p> <p>2) On other side, write name, HW #, and do p. 92: 46</p> <p>HW 5 Solutions</p>
4	9/13 Thu	<p>Write your name, date, and HW # on loose leaf.</p> <p>p. 59: 4</p> <p>p. 60: 11</p> <p>p. 70: 15, 19, 25, 31</p> <p>HW4 solutions</p>
3	9/12 Wed	<p>1) Complete handout. Calc HW 3</p> <p>2) Check solutions. HW 3 Solutions</p> <p>Just realized I left out 1d). The answer is 8.</p>

2	9/7 Fri	1) Complete both sides of handout. Calc HW 2 2) Check solutions. HW2 Solutions 3) Pds 1 and 2: Complete Google Form for textbook checkout. Textbook Checkout
1	9/6 Thu	Read the grading policy. Then fill out and submit the Google form. AP Calculus BC Grading Policy Fall 2018 Google Form Spring Term Google Form